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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,128	06/11/2001	Sang Seok Lee	049128-5010	2063
9629	7590	12/30/2004	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			KENNEDY, JENNIFER M	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,128

Applicant(s)

LEE, SANG SEOK

Examiner

Jennifer M. Kennedy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5 and 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 17, 2004 has been entered.

Response to Amendment

In view of Applicant's amendment to the claims, the rejection of claims 1 and 5 under 35 U.S.C. 112 first paragraph, are withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 4, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Von Gutfeld (U.S. Patent No. 6,219,126) in view of Nakamura et al. (U.S. Patent No. 5,427,858).

In re claim 1, Von Gutfeld discloses a liquid crystal display device, comprising:

two plates (1a, 1b), one plate (1a) of the two plates having a protrusion (3) thereon for defining a picture displaying area (area interior of protrusion, filled with liquid crystal);

a sealant (2b, see column 4, lines 10-20) formed along edges of the other plate (1b) of the two plates, a position of the sealant being outside of the protrusion (see Figure 1 and 2);

a liquid crystal evenly dispersed into the picture displaying area such that the protrusion completely contains the liquid crystal material in the picture displaying area (see column 4, lines 2-5, see Figure 2).

Von Gutfeld discloses the method as claimed and rejected above, including the method of forming the protrusion of an organic insulating film (silicone rubber see column 5, lines 20-30), but does not disclose the method wherein the protrusion is formed of indium-tin-oxide (ITO) or of metal. Nakamura et al. discloses that in organic insulating films such as silicone rubber and indium-tin-oxide (a material containing metal) are interchangeable in the image display art (see column 10, lines 35-52). The examiner notes that indium-tin-oxide is a well known material in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize indium-tin-oxide (a material

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containing metal) or metal rather than silicone rubber for the protrusion, since as Nakamura et al. teach that silicone rubber and indium-tin-oxide or a metal are interchangeable in the art and because it has been held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) "Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle." 325 U.S. at 335, 65 USPQ at 301.). See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960) (selection of a known plastic to make a container of a type made of plastics prior to the invention was held to be obvious). Also, by using a material such as indium-tin-oxide that is utilized in other process steps, (i.e. formation of the common electrodes), a reduction in process chambers and other capital may be achieved. Further, it would be expected that indium-tin-oxide when formed in the barrier fillet pattern of Von Gutfeld would provide a good physical barrier to mixing of the adhesive and the liquid crystal. The examiner notes that Von Gutfeld discloses either hard or soft materials may be used as the barrier (protrusion) and provides a few examples. Finally, the examiner points out that Applicant also recognizes that indium-tin-oxide, metal and organic insulating layers can be used interchangeably for the protrusion (see specification [0019]).

The examiner notes that Figure 2 shows that the liquid crystal is evenly dispersed in the picture displaying area. Further, the examiner notes that the

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liquid crystal material is a liquid and, therefore, it would fill the total volume that it is contained by equally.

The examiner notes that liquid crystals allow for a picture to be displayed. The protrusion defines the area in which the liquid crystal is confined and, therefore, defines the picture display area.

In re claim 4, Von Gutfeld discloses the device wherein the liquid crystal is dispersed using a liquid crystal dispensing method (see column 4, lines 2-10). The examiner notes that claim 4 is a product-by-process claim. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). See MPEP 2113. Further, the examiner notes that any dispensing method that dispenses liquid crystal could be considered a liquid crystal dispensing method.

In re claim 11, the examiner notes that indium-tin-oxide is formed of a metal, and therefore, the combination of Von Gutfeld and Nakamura et al. above disclose the method of forming the protrusion of metal. The examiner also notes that Nakamura et al. also includes another metal that are interchangeable for silicon rubber and ITO (see column 10, lines 35-52)

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Claims 5, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Von Gutfeld (U.S. Patent No. 6,219,126) in view of Ishihara et al. (U.S. Patent No. 5,263,888) and Nakamura et al. (U.S. Patent No. 5,427,858)

Von Gutfeld discloses the method of fabricating a liquid crystal display device comprising the steps of:

providing an two plates (1a, 1b) , one plate (1a) of the two plates having a protrusion (3) thereon for defining a picture display area (area interior of protrusion, filled with liquid crystal);

forming the sealant (2b, see column 4, lines 10-20) on the other one (1b)of the two plates, a position of the sealant being outside of the protrusion (see Figures 1 and 2);

forming a liquid crystal layer (see column 4, lines 2-5) onto the picture display area; and

joining the two plates (see column 4, lines 20-25, and Figure 2).

The examiner notes that liquid crystals allow for a picture to be displayed. The protrusion defines the area in which the liquid crystal is confined and, therefore, defines the picture display area.

Von Gutfeld. does not explicitly disclose the method of dispensing the liquid crystal on the picture display area evenly by a liquid crystal dispensing method, but does disclose that one would want to dispense of it by the method of Ishihara et al. (U.S. Patent No. 5,263,88). Ishihara discloses the method of dispensing the liquid crystal evenly by a liquid crystal dispensing method (see

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item 2 of Figure 3(a), and column 4, lines 25-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to since Von Gutfeld expressly states this method could be used and because the method of Ishihara ensures that maximum uniformity is achieved for the gap between the substrates and allows for a high-quality display panel (see column 3, lines 40-50).

Von Gutfeld and Ishihara et al. disclose the method as claimed and rejected above, including the method of forming the protrusion of an organic insulating film (silicone rubber see column 5, lines 20-30), but does not disclose the method wherein the protrusion is formed of indium-tin-oxide (ITO) or of metal. Nakamura et al. discloses that in organic insulating films such as silicone rubber and indium-tin-oxide (a material containing metal) are interchangeable in the image display art (see column 10, lines 35-52). The examiner notes that indium-tin-oxide is a well known material in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize indium-tin-oxide (a material containing metal) or metal rather than silicone rubber for the protrusion, since as Nakamura et al. teach that silicone rubber and indium-tin-oxide or a metal are interchangeable in the art and because it has been held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) "Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle." 325

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U.S. at 335, 65 USPQ at 301.). See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960) (selection of a known plastic to make a container of a type made of plastics prior to the invention was held to be obvious). Also, by using a material such as indium-tin-oxide that is utilized in other process steps, (i.e. formation of the common electrodes), a reduction in process chambers and other capital may be achieved. Further, it would be expected that indium-tin-oxide when formed in the barrier fillet pattern of Von Gutfeld would provide a good physical barrier to mixing of the adhesive and the liquid crystal. The examiner notes that Von Gutfeld discloses either hard or soft materials may be used as the barrier (protrusion) and provides a few examples. Finally, the examiner points out that Applicant also recognizes that indium-tin-oxide, metal and organic insulating layers can be used interchangeably for the protrusion (see specification [0019]).

In re claim 10, Von Gutfeld discloses the method wherein the liquid crystal remains completely contained in the picture display area during the step of joining the two plates (see column 4, lines 30-65 and Figures 1 and 2).

In re claim 12, the examiner notes that indium-tin-oxide is formed of a metal, and therefore, the combination of Von Gutfeld and Nakamura et al. above disclose the method of forming the protrusion of metal. The examiner also notes that Nakamura et al. also includes another metal that are interchangeable for silicon rubber and ITO (see column 10, lines 35-52)

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Response to Arguments

Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Kennedy whose telephone number is (571) 272-1672. The examiner can normally be reached on Mon.-Fri. 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (571) 272-1679. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer M. Kennedy
Patent Examiner
Art Unit 2812

jmk